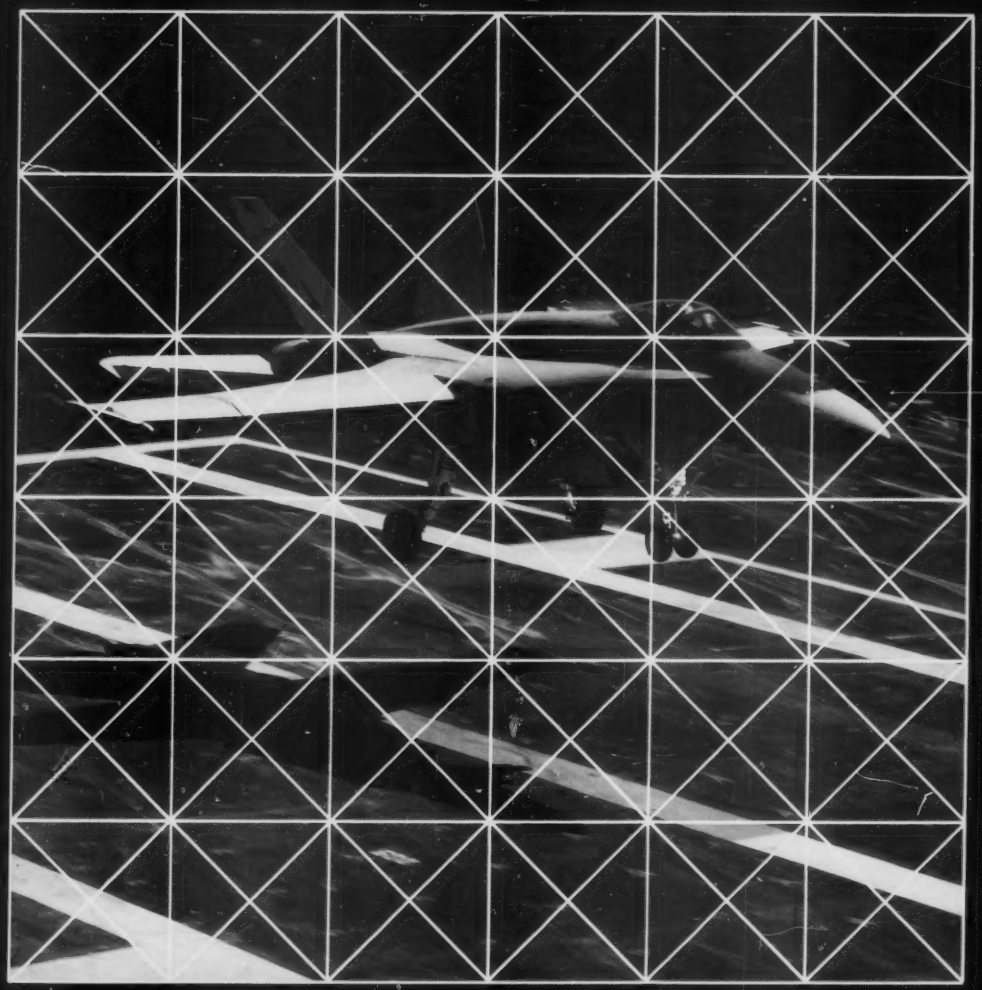
November 1989

approach

The Naval Aviation Safety Review



pro-gram 1. a plan or schedule to be followed. 2. a coordinated group of things to be done or performed. 3. a list of items, pieces, performers, etc. 4. a performance or production. 5. a systematic plan for the solution of a problem. 6. to plan a program. 7. to schedule as part of a program. 8. to prepare a program for.

P*R*O*G*R*A*M*S

My first contact with an organized safety program was driver's education in high school. The part of the course that jumps quickly to mind is the "crash and bash" flick that was shown at the outset. You know the one I'm talking about — the film set in the late 50's, produced by the Ohio State Police. It shows the all-state quarterback and his date, the homecoming queen, meet a gruesome demise. It was the classic shock-induced message technique. Did it work? Well, I never took the homecoming queen anywhere in high school and, coincidentally, never had a serious automobile accident during that time.

In naval aviation, you can measure the success of a safety program in a number of ways. For example:

— coming back from cruise with the same number of airplanes you left with.

— never having an incident on the PLAT that JOs would consider worth taping.

— everybody rolling when NMPC originally said they would.

This month, Approach is dedicated to safety programs. Whether programs are tried and true or new and unorthodox, the safety officer's responsibility is keeping safety on the minds of aviators and maintenance personnel in the midst of the chaos that is squadron life. It's each squadron member's job to listen up and take the safety officer's message to heart.

approach

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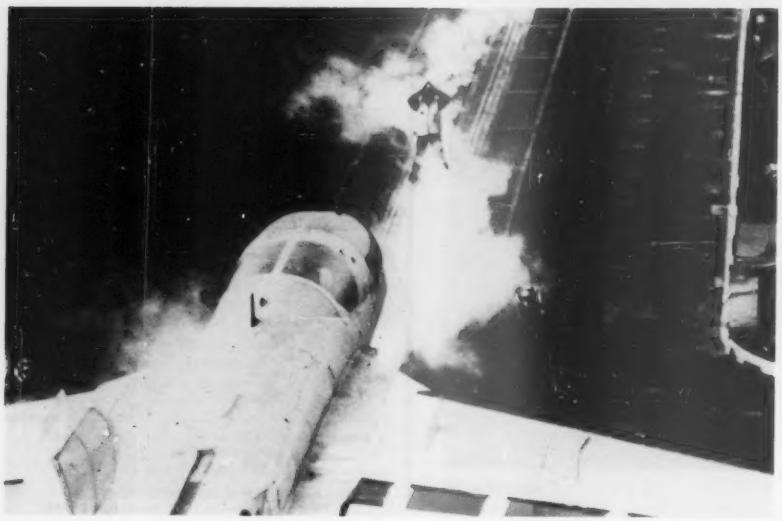
Out of Money, Out of Mind

By LCdr. Jeff Weber

Peter Mersky

It's time to push the report to the back of your brain and focus on the flight. Paperwork won't kill you (despite rumors to that effect), but inattention in the air will.



WELCOME back to sea! Ain't life grand once more? This is what it's all about: cats and traps. What's that you say? OPTAR is running low? The ship has already spent its fueling money for the next three centuries? We're not even through the Straits of Gibraltar!

All this means paperwork to your basic aviator. Lots and lots of paperwork. Remember all those things you thought would go away if you ignored them long enough? Well, they're back. Then there's training AOMs. Lots of those, too. After all, we can't waste time relaxing. There's a thousand training blocks to check off.

CWO2 Joe Leo

Less money means fewer cats and traps. Morale tends to slip. People get frustrated riding around on one of these big gray things. We could have signed up for a Love Boat cruise if we just wanted to float. What will happen to the flying?

Oh, you'll get to do it every now and then, but are you thinking about flying as much as you used to? Can you still rattle off emergency procedures like when you were back in the RAG? What was the engine-starting temperature limitation?

What are you going to do about it? Another slider isn't the answer. Preflight planning is. I don't mean filling out blank DD-175s; I'm talking *real* preflight planning.

The alarm rings at 0800 (we're on cruise, after all). After a shower and a shave, you read the flight schedule. You're flying today. Hallelujah! A 1200 brief, with a 1400 go. What the heck is an ELW-AWX-NLQ-1-SF-BN?

Here's where the preflight planning begins. You've got the flight schedule and time before you man up. Use it. What's the Emergency for the Day? Do you know it cold? Find your NATOPS manual and check it out. Are there cautions, warnings, or notes you haven't thought about since joining the squadron? Take the extra five minutes to read the procedures through.

Next, it's up to the ready room. Where's the CV NATOPS? Let's see, the weather's good, and it's a day launch and recovery. Case 1, right? Come on! You know the ship is going to find that one rain storm or fog bank. It's a basic fact: carriers attract bad weather — or is it the

Peter Mersky

Peter Mersky

other way round? In any case, look at those procedures again. What are the altitudes, the calls, and what about lost comm?

OK, you've read the NATOPS and you've checked departure and approach procedures. You're ready to go flying. Wait. What *is* that ELW-AWX-NLQ-1-SF-BN? Maybe you'll want to know that. Find the FXPs. Yeah, I know there are thousands of them, but you only need to know one for today.

Now, look at the air plan to see if anyone else is flying with you today. Hmmmm — two F-14s and an S-3. Why not give them a call to see if they're as ready as you are. That little extra coordination may come in handy in the air. See? They didn't have a clue about what was going on.

What's left? No! Not lunch. What about the aircraft? When was the last time you did the preflight? Can you rattle off what every pressure gauge should read? Maybe you can, but check, anyway. What does that little antenna there do? How about those holes? What things do you look for in the wheel wells?

How about the seat? Do you remember the entire sequence? Do you know what to do if the seat doesn't work? What about your flight gear? Where's your mirror, the strobe, your day-night flare? Have you refilled your water bottle in the last six months? Check all of those things. See if you can find it with your eyes closed, or while wearing your gloves. Do you remember how to use all your survival gear?

There's one more thing to preflight, and it's the most complicated device of the group. You! Did you get enough sleep last night? Any sign of a cold? Where is your mind — on flying, I hope. No? It's on that report that's due in a couple of days. Compartmentalize. It's time to push the report to the back of your brain and focus on the flight. Paperwork won't kill you (despite rumors to that effect), but inattention in the air will.

Well, you're all set now. Ready to take that hop and bag another trap. Only one more thing left to do — go to lunch. ◄

LCdr. Weber is the Safety Officer for VAQ-130. Previous tours include VAQ-136 and the Joint Electronics Warfare Center, San Antonio, Texas.

Holidays Are Truly Special

A YOUNG Naval Aviator recently asked a seasoned, all-knowing safety officer why we have a safety stand-down every year after the Christmas-New Year holiday season. The wise ASO, who didn't just fall off the turnip truck, quickly responded, "I don't know, but I'll find out for you, Junior."

In fact, the ASO was so fresh out of Monterey that he was still paying off credit card bills and answering fragrant love notes. He had lost all his course notes in a roll at the bar, and the only thing he remembered was the graduation speech by a Marine colonel posing as the deputy from the Naval Safety Center. The colonel began his speech eloquently: "Trust us. We're with the government, and we're always there to help you." The ASO was a gullible sort and swallowed it, hook, line and sinker.

To refresh his memory, he called the colonel for clarification. After a month of waiting for the elusive Lemoore Autovon line, he heard that faint dial tone and connected with the colonel in Norfolk.

The colonel translated the Ph.D. statistician's numbers. "On a normal day, the chance of having a Class A or B mishap is 6.09. During the period of 12 December to 31 December, that potential increases drastically to 16.51. So, either all the good pilots take Christmas leave, or the standard pilot may not direct all his attention to the task at hand during the holidays."

The ASO took this answer to the young aviator, as well as his CO who immediately canceled all leave and directed a safety stand-down.

Cdr. Evans is the A-7 analyst for the Naval Safety Center. His squadron tours include VA-147 and VA-153.

Computers:

Safety Tools For the

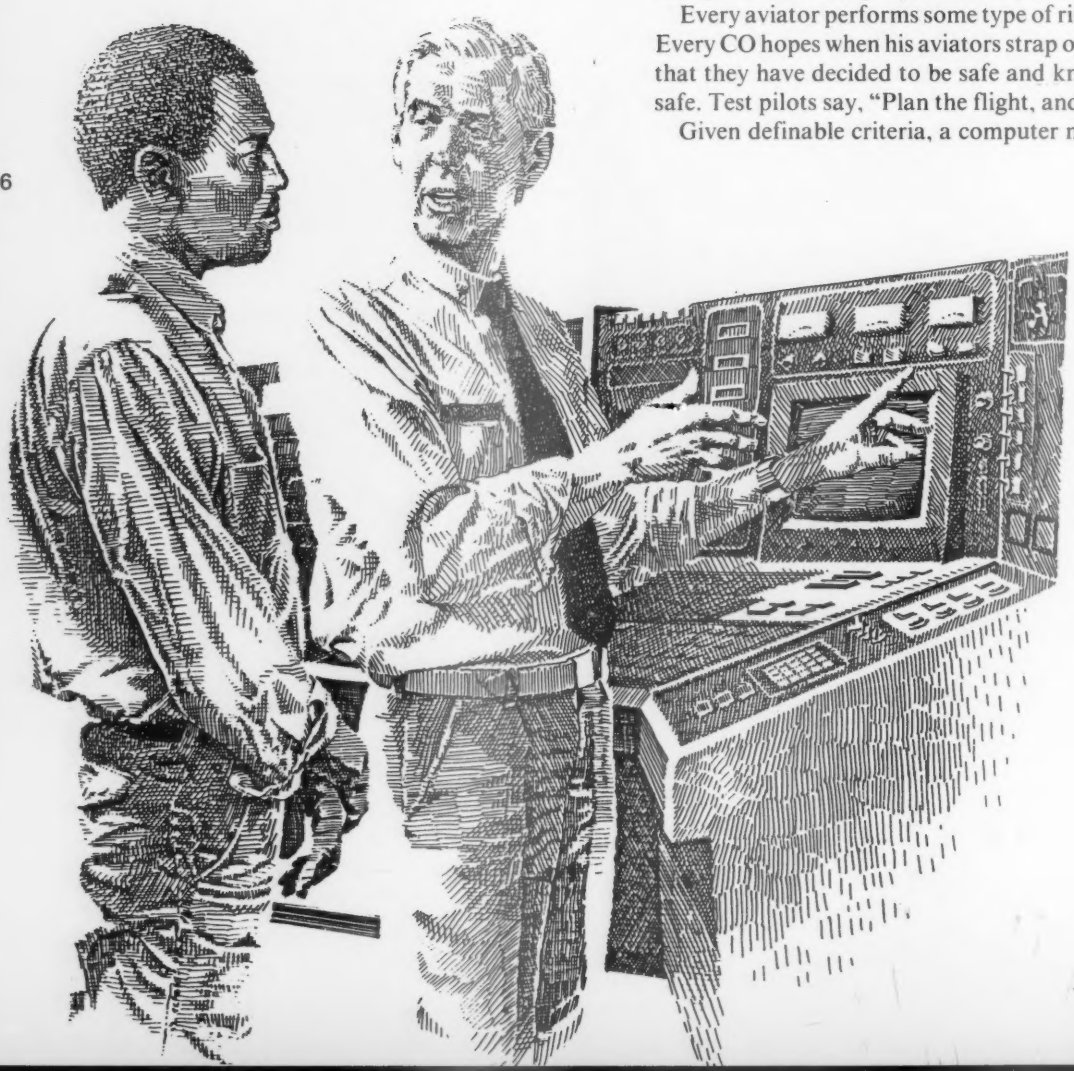
By Capt. David Heinz, USMC

THE aviation community has failed to take advantage of the computer as a production and safety tool. As procurement processes become less stringent, and the need for automation is better defined, computer systems continue to appear in almost every section of the office. Computers are fast and reliable. They accomplish precisely defined tasks for as long as the operator needs. However, few of us consider them as safety tools.

Safety is generally associated with an intellectual attitude, and a machine doesn't have an attitude. Safety is not only an attitude but also a definable choice. Rules and guidelines help people make *safe* decisions.

Every aviator performs some type of risk assessment. Every CO hopes when his aviators strap on their aircraft that they have decided to be safe and know *how* to be safe. Test pilots say, "Plan the flight, and fly the plan."

Given definable criteria, a computer makes choices,



'90s

too, based on the information's accuracy and the precision of the rules distinguishing between good and not-so-good. This decision-making ability would help the Schedules Officer. He has to sort through the many combinations of aircraft, aircrew, mission, range, endurance, currency, SOP, and regulations to come up with a safe solution.

This process determines the use of hundreds of millions of dollars in assets and the squadron's daily routine. Why do some schedules officers still do their task with pencil and paper? One reason is that the combination of intuition, association, and judgement used in producing a flight schedule is not easily defined. There are thousands of combinations of safe choices, which must be sorted and distinguished by a set of ever-changing priorities. However, the sheer quantity of information involved in generating a flight schedule demands an automated assistant. "Assistant" is important here because nothing can replace human intuition. Here is what a three-phase computer safety program might look like.

Phase I. In its simplest form, the computer could provide editing tools for the flight schedule while simultaneously checking for conflicts. Also, as part of the flight schedule, operations duty officers (ODOs) could receive a flowsheet indicating how aircrew have been scheduled for that day. When changes occur — as they inevitably do — the ODO can quickly determine another crew's availability using the flowsheet.

Phase II. The scope of the computer can be increased by programming to give the schedules officer instant access to aircrew qualifications, flight hours, currency, mission requirements, and the training plan. Most of this information is already available from the NAVFLIR form. Programming the computer to update the operations database from NAVFLIR submissions would increase the accuracy of information and promote more efficient use of aircrews and assets. Also, the computer could provide instant information on available aircrew based on specific selection criteria such as the names of available simulator instructors or mission commanders. Having this information readily available, and combining it with a fast editor and flight schedules generator, the schedules officer could produce the schedule in less time, or at least evaluate more options in the same time.

Phase III. Ultimately, a computer could be programmed using current search routines to generate a flight schedule — or any part of one — based on the information in the operations database and on operator-entered selection criteria. This procedure would allow weekly and monthly schedules, too. This longer lead time would mean better use of assets, greater flexibility, superior response to individual needs (such as the officer who is taking night courses twice a week), and a fairer distribution of flight time, training, and "good deals."

Several computer programs like those listed in Phase I have already been developed for specific aircraft communities and have been in use for years. I developed a program used by A-6, EA-6B, and C-130 squadrons at Cherry Point since 1986. I submitted the program as a Beneficial Suggestion, but it was rejected because of the legitimate concern that the program could not be continued after I left Cherry Point. However, I will gladly provide the source code, runtime disk, and documentation to anyone who sends me two blank disks and 50 sheets of copy paper. My address is: Code 72F, U.S. Naval Test Pilot School, NATC Patuxent River, MD 20670. You don't need programming experience to run the program; however, you will need Turbo Pascal 4.0, or a later version, to modify the source code.

There are many such programs, and offering this program is, I admit, a flimsy attempt to highlight their great, unharnessed potential. In this time of a tight budget, we need to be smarter managers. If developing software will help, we should do it.

Other alternatives include: creating a masters program at Naval Postgraduate School, using the Computer Sciences Directorate of the Naval Air Test Center, creating a software support activity (SSA), or contracting a commercial company to develop and support this type of software. ◄

Capt. Heinz is assigned as an airborne systems instructor at USNTPS, and is a distinguished graduate of TPS. He was recently selected by the Marine Corps as one of 20 NASA astronaut candidates.

Fear and Loathing in the Duty Office:

The Bungling of a Mishap

SDO DESKTOP MISHAP RECEIPT FORM

1. NAME (OF CALLER): _____
2. TELEPHONE NUMBER: _____
3. LOCATION (OF MISHAP): _____
4. SUMMARY: _____
_____
_____
_____
_____
_____
5. INSTRUCT CALLER TO STAND BY FOR RECALL/VERIFICATION AT:
_____
6. BREAK-OUT MISHAP BINDER AND REMOVE SDO MISHAP IMMEDIATE ACTION CHECKLIST.

Figure 1

By Lt. D.A. Dahl

THE senior lieutenant who gave you your first squadron duty officer (SDO) indoc said, "Just read the pre-mishap plan in the folder over there and you'll be all set."

"Sure," you thought, "he's been doing this for two-and-a-half years and he says 'I'll be all set.' Right."

Immediately after you assume the duty, you answer 10 dozen phone calls, pass down to the XO, brief three aircrews, review the duty section, escort 33 boy scouts through the hangar, check with maintenance on the three broken aircraft, and double as the flight duty officer on squadron common radio.

Finally, you have a free moment to read the pre-mishap folder. After all, you heard that the safety officer loved to hit new SDOs with a mishap drill, and if you hosed the drill you got that all-expense-paid trip to the XO.

"Not this kid," you think as you sit down. But, you can't find the folder. Ten panic-filled minutes later, the duty office is in a shambles. Finally, among the six-month-old weather briefs, the void squadron recall cards, and three empty pizza boxes, you take your first look at the infamous and much misunderstood pre-mishap plan.

After 30 minutes, with a sinking feeling that you can't tell anyone about, the plan still doesn't make sense. There are too many tabs, and even if you could follow the tab sequence, too many of them are missing. How do you run a pre-mishap drill? What about a *real* aircraft mishap? Finally, your rational aviator instincts prevail as you reason that someone will know what to do.

Safety officers can prevent this unfortunate, confusing situation by providing a simple, quick method for education and administration concerning pre-mishap plans. The key is simplicity. Make sure SDOs have the "big picture" before a mishap occurs. Provide them with simple, precise tools to use during drills or real mishaps.

SDO MISHAP IMMEDIATE ACTION CHECKLIST

STEP 1. Remove this page from binder and use as a guide to further action. Refer to tabs in mishap binder as directed on this page

STEP 2. Turn to Tab 1 (SDO Mishap Info Sheet) in mishap binder.

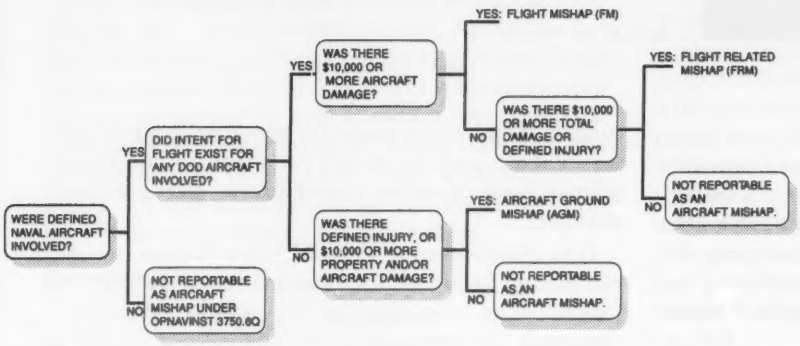
A. Return and verify mishap call using telephone number recorded on Mishap Report Information Form laminated to SDO's desk.

B. Record info requested on Tab 1. If not available continue.

STEP 3. Instruct ASDO to initiate Steps in Tab 2. (Immediate actions)

STEP 4. Determine aircraft mishap category (Tab 3): Flight, Flight-related, Aircraft, Ground.

MISHAP CATEGORIZATION


WERE DEFINED NAVAL AIRCRAFT INVOLVED?
YES
DID INTENT FOR FLIGHT EXIST FOR ANY DOD AIRCRAFT INVOLVED?
NO
NOT REPORTABLE AS AIRCRAFT MISHAP UNDER OPNAVINST 3750.6Q
YES
WAS THERE $10,000 OR MORE AIRCRAFT DAMAGE?
NO
WAS THERE DEFINED INJURY, OR $10,000 OR MORE PROPERTY AND/OR AIRCRAFT DAMAGE?
YES: FLIGHT MISHAP (FM)
WAS THERE $10,000 OR MORE TOTAL DAMAGE OR DEFINED INJURY?
YES: FLIGHT RELATED MISHAP (FRM)
NO
NOT REPORTABLE AS AN AIRCRAFT MISHAP.
YES: AIRCRAFT GROUND MISHAP (AGM)
NO
NOT REPORTABLE AS AN AIRCRAFT MISHAP.

STEP 5. Determine Aircraft Mishap Severity Class (Tab 4): A, B or C.

SEVERITY

ALPHA
- > $1 Million Damage
- Loss of Aircraft
- Permanent Total Disability
- Death

BRAVO
- > $200 K Damage
- Permanent Partial Disability
- > 5 Personnel Hospitalized

CHARLIE
- > $10 K Damage
- Injury >1 lost day

DO NOT RELEASE ANY NAMES OF MISHAP CREWMEMBERS

STEP 6. Contact CO:_____ (or) XO:_____ (or) CDO:_____ (Tab 5). Report "SIR THIS IS (YOUR NAME) THE SDO, THERE HAS BEEN AN AIRCRAFT MISHAP. YOUR PRESENCE IS REQUESTED AT THE SQUADRON." If unable to contact the above, continue.

STEP 7. OPREP-3 Determination (Tab 6). An OPREP-3 (Blue or Pinnacle) is required if any of the following criteria exist:

OPREP-3 BLUE
CLASS "A" MISHAP
MISCONDUCT
DAMAGE TO CIVILIAN PROPERTY
NAVY/CIVILIAN MIDAIR/NEAR MIDAIR
WILLFUL DESTRUCTION OF GVT PROPERTY

OPREP-3 PINNACLE
NATIONAL/INTERNATIONAL INCIDENT
TERRITORIAL VIOLATION
NATIONAL LEVEL NEWS INTEREST

STEP 8. OPREP-3 Telephone report (Tab 6) 5 minute limit read from Tab 6: DO NOT DELAY FOR LACK OF INFORMATION.

STEP 9. Instruct ASDO to recall duty section and AMB (Tab 9).

STEP 10. Inform external chain of command (Tab 7).

STEP 11. OPREP-3 Written message (Tab 8) 20 minute limit.

STEP 12. Ensure steps 2 through 11 are complete.

STEP 13. Refer to premishap plan, delegate action and request assistance as required.

Figure 2

First, review, in common sense terms, the SDO's responsibilities and priorities during a mishap. No lists, tabs or notebooks, just a simple, easy-to-follow scenario. The SDO must confirm the mishap, determine its location and the status of aircraft and crew. After dispatching the required SAR, fire and medical assets, he notifies the squadron chain of command, and recalls the Aviation Mishap Board (AMB). He musters the duty section, the reclamation team and completes the initial 20-minute OPREP-3. Simple, eh? By the time he completes the steps, the SDO will need help as half the indians and chiefs in the world converge on the duty office.

A good pre-mishap plan should have all the information needed by the SDO during the first hour after the mishap. This includes names, phone numbers, pre-formatted message blanks and message examples, and the names of all board and team members. OPNAVINST 3750.6Q allows leeway in a plan. The most common problem SDOs have is finding numbers in a hurry. Many plans have all the required materials, but have been tabbed and annexed to such an extent that the average duty officer is unable to use it.

The SDO has an initial mishap report form laminated to the top of his desk, Figure 1. This form directs him to a removable, one-page guide, as shown in Figure 2. This guide cannot be turned over, flipped, tabbed, or annexed, and is constantly available to the SDO during the high-stress period after a mishap.

This form has space to record pertinent initial data with the last line directing the SDO to the one-page guide. Experience shows that combining the guide with the initial mishap report will help the SDO after a mishap. ◄

Lt. Dahl is an SH-60B instructor with 2,000 hours in the Seahawk. He is the ASO for HSL-40.

"Iron Mike" Mulligan, the fleet's wisest safety officer, answers some of the most asked safety questions.

Dear Iron Mike:

By LCdr. J.J. Horvath

Dear Iron Mike,

Over the past six months, four of our maintenance personnel were injured because they were not wearing their cranial helmets while working on aircraft. Although we've got a maintenance instruction (MI) covering the issue, I find it difficult to enforce. Any ideas?

Befuddled in Oceana

Dear Befuddled,

You're not alone! Commands ask the same question of every Naval Safety Center survey team. The MI *is* tough to enforce and needs the support of all supervisors.

I've seen one possible solution using a camera. The Safety Officer, or Safety Petty Officer, takes pictures of violators while they are perched on top of aircraft sans cranial. At the end of the week, the pictures appear on the safety bulletin board under a pertinent title like "Squadron Daredevils" or something equally subtle. Within two months it is difficult to find a violator. Good hunting!

Dear Iron Mike,

I need advice on how to measure the effectiveness of our safety program. My CO is concerned that there are a lot of unreported hazards and dangerous incidents. He feels that the squadron has become lax in its attitude toward safety.

In a Daze Out West

Dear Daze,

Your solution lies in conducting a command survey. They're like all of those housing surveys you've filled out over the years. A command survey assesses the command climate toward safety and related programs. The survey should consist of no more than 20 questions. The questionnaire should address only two or three areas of concern. Don't try to assess the whole program in one survey. Each question should use a scale to rate a program or issue, or ask for a short answer. Here are some examples.

How effective is the Enlisted Safety Committee in eliminating hazardous conditions in the squadron?

Very	Sometimes	Not at all
Effective	Effective	Effective

or

What is the most dangerous maintenance job you do?

Do you feel safe in doing it?

Randomly query 10-15 percent of the command. Ask only for pay grade and work center to keep some anonymity to the survey. Publish a summary of the results in the POD. Don't conduct more than two surveys a year, or people will lose interest.

Dear Iron Mike,

How can I make the systems and safety briefs presented at weekly training AOMs more interesting? We've spread the responsibility for presenting the briefs among the officers, but only half of them deliver their briefs with any flair. Some seem as if they were thrown together the day before. Any suggestions?

Embarrassed in the Pacific

Dear Embarrassed,

Take a tip from the business world: use murder boards to get consistency in your training briefs. The method I've used is to assign the system or topic in the ops plan well in advance. The brief is murder-boarded by three or four officers two weeks before the presentation date.

This method gives everyone plenty of time to prepare a good outline, rehearse the material, and to have it evaluated. The time between the murder board and the

actual presentation can be spent refining the rough parts.

Some commands that use this approach also have the briefer prepare a short quiz to reinforce the salient points. Give it a try!

Dear Iron Mike,

Our squadron took a hit on our last ADMAT for not conducting quarterly Aircraft Mishap Board (AMB) training. It's so hard to gather all of the players together for a quick lesson. Help!

Desperate Down South

Dear Desperate,

Your best approach to the problem is to fit the training into the schedule as best you can. Accept the fact that not everyone will be available. Department heads are busy people. Schedule for the time when most everyone can attend and prepare an outline version of your pitch for those who aren't there. Keep a training folder for each member of the AMB. Then, when a turnover occurs, all new members can quickly come up to the level of more experienced board members.

Dear Iron Mike,

I'm a new Safety Officer looking for guidance on setting up a good ANYMOUSE program. From all indications, the current program has done little but provide scratch paper for squadron personnel.

Cluelessmouse

Dear Cluelessmouse,

To be effective, the program must do three things: be readily available, show credibility, and maintain the anonymity of the author. Put forms and drop boxes near the vending machines in your spaces, the coffee mess, in the line shack, and outside a cluster of squadron work centers or in passageways (topside, too). Never put one in Maintenance Control. The idea is to make the forms easily available to everyone. If a mech has to go topside to the safety office or into maintenance control to get a form, he's not going to do it very often.

Once the forms start to trickle in, take action as quickly as possible. When the problem has been resolved, announce the solution in the POD. This tells the command that the ANYMOUSE program is alive and working.

Keep the form simple and make the identity of the author an option. People are more apt to reveal a problem when they don't have to identify themselves and face possible repercussions. Whether or not a name is supplied, it's probably best not to reveal the author in the POD. ◄

LCdr. Horvath is a RIO with tours in VF-103 and VF-11. He is the Naval Safety Center's training analyst.

It's in the Cards

By LCdr. Jack Cribbs

ON the second day of our drill weekend, our new Commanding Officer talked about safety. We thought we would hear the same old spiel on making the squadron a safe place to work.

He spoke briefly, introduced the Safety Department staff and said, "These folks might be experts at their work, but they won't be able to make this squadron safe. That will be the job of everyone."

The Safety Officer, the Safety Petty Officer and the Aviation Safety Officer passed out 3x5-inch index cards and pens. Written on the pens were these words: Quality, Integrity, Safety. They distributed copies of the CO's safety policy. "Operational success cannot be achieved without safety," the skipper said. "Any squadron worth its salt must actively seek to accomplish operating and training requirements while following Navy safety guidelines and policies."

The CO next asked each squadron member to write down a potential hazard and what he would do to prevent such a mishap. The CO asked, "What one thing would you do to prevent an accident either in the squadron, in the aircraft or at home?"

The Safety Department reviewed the suggestion cards and categorized them as follows:

Human performance	57
Electrical safety	3
Fire safety	8
Safety equipment	9
Prop-arc safety	3
Drinking and driving	8

From the cards, they filled out 10 hazard reports. A risk code was assigned to each report. They wrote and routed the reports through the command. The Safety Department worked on follow-up suggestions to see that they closed out each hazard report. The CO had set the tone. He got each member of the squadron to "think" safety, a big part of the fight against mishaps. ◄

LCdr. Cribbs is VR-48 Safety Officer flying C-131H aircraft at NAF, Washington, D.C.

A great idea and a good way to commence a command tour. — Ed.

In Memoriam

Jack LaBar

1918—1989

Jack LaBar's cartoons have significantly added to the appearance and tone of Approach magazine for a number of years. He was a man blessed with a keen sense of humor and an acute awareness of the world about him. As he created the diverse characters and illustrated safety-oriented situations, he never lost sight of the subject at hand or took his audience for granted. To readers he showed a lighter side which made the lessons of aviation safety easier to understand.

Noted for his Anymouse illustrations and feature-story contributions, Jack LaBar made the art of cartooning seem easy and almost off hand. Whether the subject was a row of dancing cockroaches or Anymouse in extremis, he was a working artist who did his job without complaint or wasted motion.

Honored by former President Carter for an innovative idea to use the back covers of NAVSAFECEN publications as posters, Jack LaBar also created, drew, painted and provided the words and music for Sammy the Seal, a NAVSAFECEN audio-visual creation designed to promote child safety.

With the ever-present cigarette at hand and a cup of coffee nearby, he was ready to discuss aspects of the story assigned. Many times this took only a nudge of his imagination, and his awesome talent took over to create an illustration beyond the author's wildest dreams.

A native of Buffalo, New York, Douglas Jack LaBar was raised in nearby Rochester. He served with the Army during World War II and later with the USAF where he was assigned to the Far East edition of Stars and Stripes. From this background came the insight and skills honed to a fine professional edge. His gift of humor will be remembered for a long time. — Robert Trotter

No Magic Here

By Lt. Walt Bankowski

I RECENTLY made my 500th arrested landing in the A-6. Looking at my logbook, I saw that most of my flying had been during workups or on deployment. I reflected on my time in two Intruder squadrons whose combined records covered almost 20 years and 80,000 hours free of Class A mishaps, as well as numerous Safety "S" awards. How were these squadrons able to accumulate such a large number of mishap-free hours? What allowed them to go through rigorous workup cycles, deploy for up to eight months, and then return to minimal flying before beginning the workup cycle again? There were four reasons.

The Command Climate. This is where it all starts: the CO's viewpoint and how the squadron operates, from the newest airman to the most senior pilot or NFO. If the maintenance troops get hurt because of a bad ground safety program, their minds won't be on their primary job of fixing aircraft.

One CO used to promote the "just" theory in his talks to the squadron. He discussed the point where good headwork and airmanship give way to the competitive ego. Maybe we could *just* fly 100 feet lower, or *just* use this maintenance shortcut.

The Maintenance Climate. Without good, safe maintenance practices, we would have no aircraft to fly, and our days would be filled with paper work, which is not why we became Naval Aviators. Proper maintenance is a series of checks and balances — MIMs, MRCs, checklists, inspections, dailies, turnarounds and preflights —all designed to ensure that they take the correct steps, and then CDIs and QARs check them.

Publications exist so that nothing has to be memorized. Thirty thousand feet on a cross-country or 500 feet in the night bombing pattern is not the place to discover bad maintenance. A few people will take shortcuts if they think it will get them off work earlier or give them more time to kick back. Strong leadership makes sure that the job is done right every time.

The Aircrew Climate. Although the aircrews are the most important link in a good aviation safety program, their participation can't be limited to flight time. A good program includes many areas on the ground, beginning with squadron operating procedures. SOPs require constant review.

We should not dust off NATOPS once a year for tests. We need to study, revise, test and retest until they become second nature. A good place for information on mishaps is the safety-read board.

You should thoroughly brief emergencies and "what-ifs" before every flight. Flexibility helps overcome unplanned occurrences. Do aircrews discuss aircraft and safety concerns? Is there a comfortable climate in your squadron about aircrew safety?

The Ship Climate. Most of our flying is around the ship. It's the area where we have the least control, and the goal of the ship-air wing team should be to work together. (See "I Now Pronounce you Boss and CAG," Approach, November 1985). All of us have heard the line, "The ship will try to kill you," and everyone has their own "There I was" story. The ship has the same checks and balances as the squadrons and must promote flight deck safety through drills, training, FOD awareness and inspections.

The air wing squadrons must provide timely feedback on the ship's mistakes. It works both ways, and there should be a constant dialogue. The worst situation is the we-they battle where nothing is accomplished, least of all safety.

There is nothing magic about a good safety program. A good safety climate is something you sense the first time you see a successful squadron.

Lt. Bankowski is a B/N with VA-165, and is the squadron QA officer.

Disturbing Discrepancies

By Lt. Scott E. Campbell

HAVING surveyed more than 100 squadrons since taking over the H-2/H-60 desk at the Naval Safety Center, I am continually amazed that the same discrepancies keep cropping up. It becomes annoying when we find them uncorrected upon returning for another survey 18 months later.

Here are a few examples of disturbing discrepancies in the "operations and training" part of recent surveys:

In reviewing the NATOPS training jackets, I always check to determine whether the approaches recorded on the pilot's NATOPS instrument-rating request form correspond to approaches logged in the pilot's logbook. In one squadron, the pilots had the minimum of six precision and six non-precision approaches within the last six months recorded on all instrument-rating request forms. In the pilots' flight logbooks and "yellow sheets," I found they had not flown the recorded number of approaches. Nine of the 12 pilot records I reviewed in this squadron were issued invalid instrument ratings. Although more than half the squadrons I surveyed this year had at least one pilot without the minimum number of approaches, this was the only case where most of the squadron's pilots had invalid instrument ratings.

On another survey, I reviewed the NATOPS training jacket of a pilot who was maintaining his own logbook. His NATOPS instrument-rating request form indicated that he had exceeded the required minimum number of non-precision approaches in the last six months. His logbook and "yellow sheets," however, showed that he had actually flown zero approaches six months before his check ride.

In most cases, squadron safety officers told me pilots should be responsible enough to add up their own approaches. This sounds logical, but you have to consider who is signing the NATOPS instrument-rating request form. I don't mean to second-guess all the hard-working NATOPS officers out there, but if I were one of them, I would check the numbers myself before forwarding the instrument-rating form to the CO to sign. If the pilot had barely met the minimum number of approaches required, then this check becomes more

important.

It should be common knowledge that the approaches flown on the instrument check do not count toward meeting minimums. However, it is surprising that many pilots do not know this. Counting approaches on check rides is only one example of the errors made in recording the total number of approaches flown.

In yet another squadron, I discovered that a pilot flew his instrument check with less than three-tenths of an hour of first-pilot time, zero actual-instrument time, zero simulated-instrument time, no precision approaches and no non-precision approaches. His annual NATOPS check was also combined with this flight. I asked the Safety Officer how anyone could complete all the requirements for an annual NATOPS check and an instrument check with only 18 minutes on the controls and no approaches. He told me that the wing evaluator signed off both the annual NATOPS and instrument checks based on observing this pilot give another pilot a check ride.

This explanation caught me completely by surprise. The purpose behind check rides is to evaluate a pilot's ability to complete the prescribed manuevers. It is not an evaluation on how well a pilot can instruct. Being able to physically take off and land or to shoot an approach is much different than just knowing how. The wing signed off as the evaluator, but the squadron CO signed for both qualifications.

In a recent mishap, supervisory error attributed to the CO was assigned as a cause factor. In that mishap, the pilots were qualified, but only minimally proficient in night ship operations. Suppose a mishap occurs during an IFR approach. How do you think the aircraft mishap board would handle a case where the mishap pilot had zero approaches in the six months preceding his instrument check? How would a board handle a weather-related mishap involving a pilot who had not been evaluated flying an approach in a period up to two years?

The FAA grants the Navy the authority to establish and monitor qualifications. COs must be conscientious when monitoring and ensuring qualifications are achieved. For the NATOPS and Operations Officers out there, take the time to check the numbers before the NATOPS instrument rating request form goes to the CO for signature. It may turn out to be more important than you think.

The following are some of the areas where discrepancies have been noted during the operations portion of recent surveys:

- Flight schedules are a substitute for DD-175s and must contain all information as listed in OPNAV 3710.
- Access to NATOPS training jackets must be restricted to those persons designated in writing by the CO.
- NATOPS training jackets must be reviewed annually within 30 days of the pilot's birthday.
- Pre-mishap instructions in the duty office are often not written clearly, making them difficult to use.
- Conducting and logging of required annual emergency egress training is not being completed.
- In-house safety surveys, strongly recommended, are rarely being conducted.
- Squadron hazard identification programs are not being supported by squadron personnel in many units.
- NATOPS training jackets should contain the current annual flight physical up chit and all medical chits issued since the annual chit.
- Pilots need to have a copy of their current orders in their NATOPS training jacket.
- Current open- and closed-book exams or grade sheets must be maintained in a pilot's NATOPS training jacket.
- The CO, or his designate, needs to verify flight-time entries and sign pilot's logbooks at the end of the fiscal year..
- The mishap and flight violation section of a pilot's logbook needs to have entries authenticated by the CO at the end of the fiscal year and upon transfer from the activity.
- Squadrons use widely varying procedures for tracking qualifications. The Flight Schedules Officer must be aware of pilots in a down status.
- Submitting and maintaining records for PID (personnel injury and death) reports are often sporadic.
- A low percentage of squadron personnel have CPR training as well as hearing conservation testing. Records are often poorly maintained.
- In many squadrons, flight time is not being distributed equally.
- AMB training is often not being done until a mishap occurs.
- The flight surgeon is not being used as an active member during AMB training.
- Tools in the mishap kit should be identified as belonging to the safety department.
- A flight surgeon should be included in the investigation of physiological hazard episodes.

This information as well as the Safety Survey Checklist published by the Naval Safety Center will help squadrons prepare for future safety surveys. Remember, our command does not forward results of the survey to your wing. We really are there to help! ◄

Lt. Campbell is the SH-2F and SH-60B Safety Analyst for the Naval Safety Center, NAS Norfolk, Va.

When It Comes To Perestroika, We're All In It

By LtCol. V. Antyufeyev, Soviet Air Forces

We reprint this article from *Cockpit, The Royal Navy Flight Safety Magazine.* Originally translated by the Royal Air Force, the article's original title was "Flight Safety: The Experience, the Analysis, the Problems." It's good to see that aviation-safety concerns extend beyond political ideologies and international boundaries.

OUR fighter-bomber squadron began the year in a good fighting frame of mind. Every pilot was charged up and looking for opportunities to display himself at his best. As is usual when you start something new, you plan the most important objectives. In combat improvement, for example, you think of your untapped reserves and of what has sometimes prevented you from keeping ahead of the game; you think of what you have to do so as not to repeat previous mistakes.

As the squadron CO, flight safety especially concerned me. The strongest guarantee of safety during intensive combat training is methodical organization. On the ground, my air warriors study aerodynamics along with tactics, techniques and maintenance. Training systems, short tactical exercises and flight briefings are widely used. This may lead to greater creativity and endeavor in the air where flight leaders must evaluate their pilots' capabilities more strictly.

The squadron has a new respect for those pilots with many years of mishap-free flying. Major V. Klimov's flight shoots and bombs like sharpshooters, and many other pilots also show themselves well. Their example prompts their squadronmates to the untiring perfection of their skills and imbues them with a feeling of responsibility toward flight safety.

Do all pilots cope successfully with their obligations? Do they all strictly carry out their flight manual's instructions for mishap-free flights? Unfortunately, not every commander or political worker can answer yes.

Our unit has an annual replenishment of graduates from military colleges. The young lieutenants arrive, all different in character, training and inclination. But they all have two things in common: their love for the skies and their profession as military aviators. How can they be brought into line regarding flight safety?

Of course, all the experienced pilots help the novices.

The flight commanders are, nevertheless, called upon to play the main part. After all, it is not for nothing that officers in this category are called the first teachers of flying crew. However, their control of their pilots' studies is sometimes weak; they do not always have sufficient time or resources, and also may, themselves, lack initiative as well as being burdened with administrative duties.

The importance of human factors in flying necessitates strengthening the confidence of flight commanders and giving them more independence. Here is an example from Maj. A. Rastergayev's flight. Lt. Yu. Muntyan arrived for his flight, having graduated from military college. Relearning presented no problems to Yuriy, and his first flights went well. But when the young pilot flew independently, he lost ground; during landings, he made one mistake after another.

His flight commander quickly diagnosed the problem: The pilot wasn't concentrating on landing techniques, and once the problem had been seen, it was easy to treat the illness. Muntyan's solo flights were stopped, and he was allowed to practice his landing techniques in the pattern. Now Lt. Muntyan is a Military Pilot 1st Class, one of the first novices to reach this level.

During tactical flight training, our squadron was tasked to attack an enemy airfield. We had to fly under difficult weather conditions, at low altitude, evading the enemy's air defenses, and land at another airfield. In spite of these requirements, we completed our assignment. But there were annoying blunders.

However, they did not escape annoying blunders.

. . . . We try to focus people's attention on what is intolerable for flight safety.

Military Pilot 1st Class Senior Lt. S. Kozyrev could have had an accident when, concentrating on calculations and his landing approach, he forgot to put his flaps down! Someone in the squadron said that anyone could have made this mistake and that it wasn't worth fussing about. I won't even comment on that opinion.

We had a very serious discussion in the squadron, and we reached a simple conclusion: Everyone is equal in the air and must give their activities the same amount of attention.

From the Soviet editorial board. LtCol. Antyufeyev raises important questions on flight safety. He shares his great experience with us and, considering the requirements of the XXVII Congress of the CPSU (Communist Party of the Soviet Union), he is trying to interpret *perestroika* in his own area of operation. We invite our readers, commanders, political workers, staff officers, pilots and navigators, specialists of the air-engineering service, and other aviators to participate in the discussion. ◄

LtCol. Antyufeyev is a squadron CO and a Military Pilot 1st Class, a classification indicating flight experience, education, and commitment to his government's ideals.

No More Wimps

By LCdr. John J. Durkin, Jr.

AGGRESSIVE safety. These two words are frequent strangers. When we think of aggression, we get a picture far different from that conjured up when safety is mentioned.

Sure, Lt. Smith has an aggressive squadron safety program. His skipper, Cdr. Jones, aggressively pursues that perfect safety record. This is his main concern (it says so right in his FITREP). Is your safety progam aggressive? Ask yourself some of the following questions:

- Does your squadron have a pilot who isn't quite up to snuff? Is he scheduled with a strong wingman or copilot to look out for him? Has he had one, maybe two, close calls? I'll bet he's a great guy, a career man and it was just an isolated incident. Did anyone ever suggest that he and the Navy would be better off if he ruled the skies from the ground?
- Instructor Pilots — How often have you seen a student in the FRS who wasn't quite cutting it? You reckoned he'd be flying with Lt. Down tomorrow, and he'd either shape up or Down would get him.
- Instrument Check Pilots — How often have you seen your buddy hose up an oscar pattern or bust

minimums a little? He shrugged it off because "nobody really does oscar patterns when they're flying anything but instrument checks. That's Training Command stuff."

• QAOs and Maintenance Officers — How many times have you followed up and actually found the guy who forgot to connect the oil line or failed to complete the daily inspection correctly? We act like we don't want to rile up the troops because they're overworked already and an ADMAT is coming up.

• NATOPS Officers — What happens to those AOM NATOPS quiz answer sheets on which you worked so hard? Do they get "filed" in a dark cabinet never to see the light of day? Do you allow them to be submitted with no name so you won't embarrass anyone? Do you keep a running log to identify those who haven't kept up with the pack? Do the CO and Safety Officer know who they are?

We encounter these things frequently in the course of our careers. The way we handle such situations is a measure of the aggressiveness of our safety programs.

All too often the reaction to a hazard, incident or mishap is to restrict the manner in which we operate, achieving a short-term gain in the mishap stats, but setting us up for long-term losses in combat because we stop training the way we'll fight.

The battle cry of a reactionist becomes, "We have to structure the training for the least common denominator." If we are only allowed to train to the level of the least common denominator, someone on the other side of the world will smile because one of his largest common denominators will have us for breakfast. To put it differently, what would we say as parents if our children were only taught to the level of the slowest child in the class? We wouldn't tolerate even the suggestion.

So, what do we do with aggressive safety programs? A truly aggressive, no-holds-barred safety program will get rid of those least-common denominators who we're too worried about to let explore the envelope or even carry out normal missions. I'm not talking about the new kid on the block who's just learning the mission. I'm talking about the guy who's been seen buzzing the carrier from ground level, the one who never cracks a book between NATOPS checks and whose idea of basic airwork is engaging George and flying airways point A to B to get ready for a night trip to the boat.

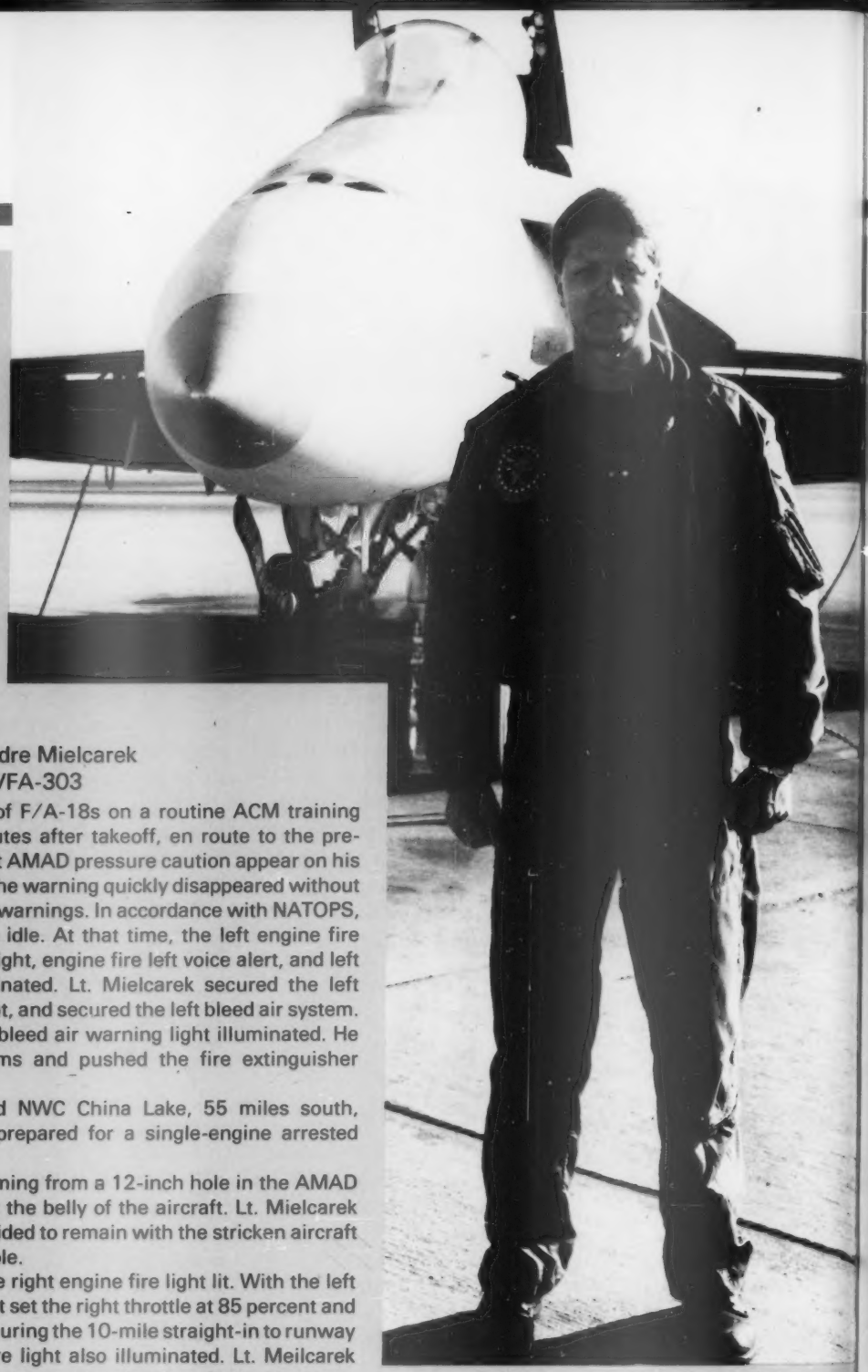
It's nice to be nice. Few people like to give downs to a pilot in the FRS. Fewer people like to give one to a friend who really blew an instrument check. Only a few COs would like to take a pilot's wings because the pilot just doesn't have the right stuff. The Maintenance Officer who brings a wrench-turner up on charges of negligence or the base CO who won't let the flight violation go unanswered are also rare birds. Few Safety Officers are ever asked on a survey, "Who will have the next accident in the squadron and why?"

Folks who do these things don't appear to be very nice. They make tough and frequently unpopular decisions, but they are the signs of a truly aggressive safety program. They may ruin a flying career, cost the squadron a reenlistment and generate some serious discontent along the way. On the other hand, think about what a crash does to a flying career, or the loss of an eye to the chances of reenlistment. Think of the discontent generated by the death of a squadron member.

Maybe these hard guys really are nice guys in the long run. They make that "least common denominator" into a slightly higher one, which means more of us will come home from a close encounter of the unfriendly kind. They make some enemies, but they prevent widows. They give all of us the incentive to be a little more careful with our maintenance, our systems knowledge and our flying skills. They don't tolerate sub-standard performance, which in turn makes us more professional and skilled.

You can generate volumes of SOP, have a dozen safety standdowns a week, and plaster safety posters all over the ready room and hangars. If identifying and eliminating sub-standard performance is not the main concern of the Safety Department, your program is a passive-active one that will get very good at rule making to prevent mishaps like the one that just happened to you. The terms "aggressive" and "safety" should go together like "down and locked." If they do in your squadron, your pre-mishap plan has a chance of gathering cobwebs — and no one will have you for breakfast.

LCdr. Durkin is Officer-in-Charge of HSL-42 Detachment 10 (H-60s) aboard USS Simpson (FFG-56).



Lt. Andre Mielcarek
VFA-303

20 Lt. Mielcarek led a section of F/A-18s on a routine ACM training sortie. Approximately 20 minutes after takeoff, en route to the pre-briefed CAP point, he saw a left AMAD pressure caution appear on his digital display indicator (DDI). The warning quickly disappeared without any associated master caution warnings. In accordance with NATOPS, he retarded the left throttle to idle. At that time, the left engine fire warning light, master caution light, engine fire left voice alert, and left bleed air warning light illuminated. Lt. Mielcarek secured the left throttle, pushed the left fire light, and secured the left bleed air system. A few seconds later, the right bleed air warning light illuminated. He secured both bleed air systems and pushed the fire extinguisher discharge button.

Lt. Mielcarek turned toward NWC China Lake, 55 miles south, declared an emergency, and prepared for a single-engine arrested landing.

His wingman saw flames coming from a 12-inch hole in the AMAD area and extending back along the belly of the aircraft. Lt. Mielcarek thought about ejecting, but decided to remain with the stricken aircraft since it was still fully controllable.

At 20 miles from the field, the right engine fire light lit. With the left engine already secured, the pilot set the right throttle at 85 percent and continued toward China Lake. During the 10-mile straight-in to runway 21, the auxiliary power unit fire light also illuminated. Lt. Meilcarek extended his landing gear at two miles and made a long-field arrestment.

He secured the right engine and quickly exited the aircraft with the aft section completely engulfed in flames. The crash crew extinguished the fire approximately one minute after touchdown.

Postflight inspection revealed massive fire damage to both engines as well as the APU.

BRAVO ZULU

Lt. Michael Gleason
Lt. William Clark
VA-155

With ATIS reporting 300 feet obscured, ½ mile visibility in snow and fog, with tops at FL 230, Lt. Gleason (pilot) and Lt. Clark (B/N) began their TACAN penetration to NAS Whidbey Island. Their A-6E immediately had a total pitot static failure. The airspeed indicator became erratic and then froze at 450 KIAS. The altimeter read FL 220, and the VSI was inaccurate.

The crew quickly dumped cabin pressure and changed their instrument scan to include the cabin pressure gauge and AOA. They flew the approach until the radar altimeter began operating at 5,000 feet AGL.

Lt. Gleason used the aircraft attitude, power setting, and radar altimeter's rate of change to help determine the Intruder's rate of descent. Lt. Clark used the highly accurate radar to confirm the aircraft's ground track.

Postflight inspection revealed a cracked bulkhead static pressure fitting.

The commanding officer commented, "This junior crew did a superb job. . .With 3,000 hours in the A-6, I fully recognize how difficult it was and with the weather that night, they handled the situation beautifully in an outstanding example of crew coordination. . ."

From left to right:
Lt. Michael Gleason,
Lt. William Clark

Left to right:
Capt. Joseph Mauney, USMC,
Cpl. Norman Lytle, USMC,
1st Lt. Christopher Sharp, USMC.

Capt. Joseph Mauney, USMC
1stLt. Christopher Sharp, USMC
Cpl. Norman Lytle, USMC
HMM-162

Participating in pre-assault operations during exercise Sardinia 1-89, Capt. Mauney (HAC) and his crew launched from USS *Guadalcanal* (LPH-7). Their mission was to fly to the training area ashore, approximately 45-50 nm, and drop off their passengers before returning to the ship. Capt. Mauney was the division leader of a flight of three CH-46Es.

Flying at 500 feet above the water, the crew smelled fuel in the cockpit and assumed they had a problem with the internal fuel tank. Cpl. Lytle (crew chief) investigated. Approximately 7 nm from shore, the fumes intensified, making the crew's eyes water. Capt. Mauney noticed the No. 1 engine deteriorating and ordered the power management system (PMS) secured. 1stLt. Sharp assisted with crew coordination and preparing for single-engine flight.

Cpl. Lytle reported smoke coming from the No. 1 engine; the wingman saw fuel streaming from the aircraft. As the No. 1 engine was secured, the fuel fumes and streaming fuel subsided. Capt. Mauney ordered fuel jettisoned to attain single-engine weight. Cpl. Lytle prepared the passengers for landing while Capt. Mauney flew toward a large field where he made a running landing.

Maj. D. Lumsden, USMC
Capt. D. Sasso, USMC
Cpl. S. Harris, USMC
HMH-361

After launching from MCAS Tustin on a functional check flight in a CH-53D, Maj. Lumsden heard a strange noise and felt a light vibration through the cabin floor. Capt. Sasso and Cpl. Harris also heard and felt the vibration, and the crew headed back to the field.

While the helo was still in the turn, the accessory gearbox chip light illuminated, followed by a loud thump. The crew lost all electrical power, the automatic flight control system, and two of the aircraft's three hydraulic systems. After discussing whether to return the three miles to the air station or land, the crew decided to land in a farmer's field.

On final, heavy smoke and fumes began to collect in the cabin. After landing, the crew shut down without the auxiliary power plant. Maj. Lumsden and Cpl. Harris extinguished a small fire in the accessory gearbox (AGB) compartment.

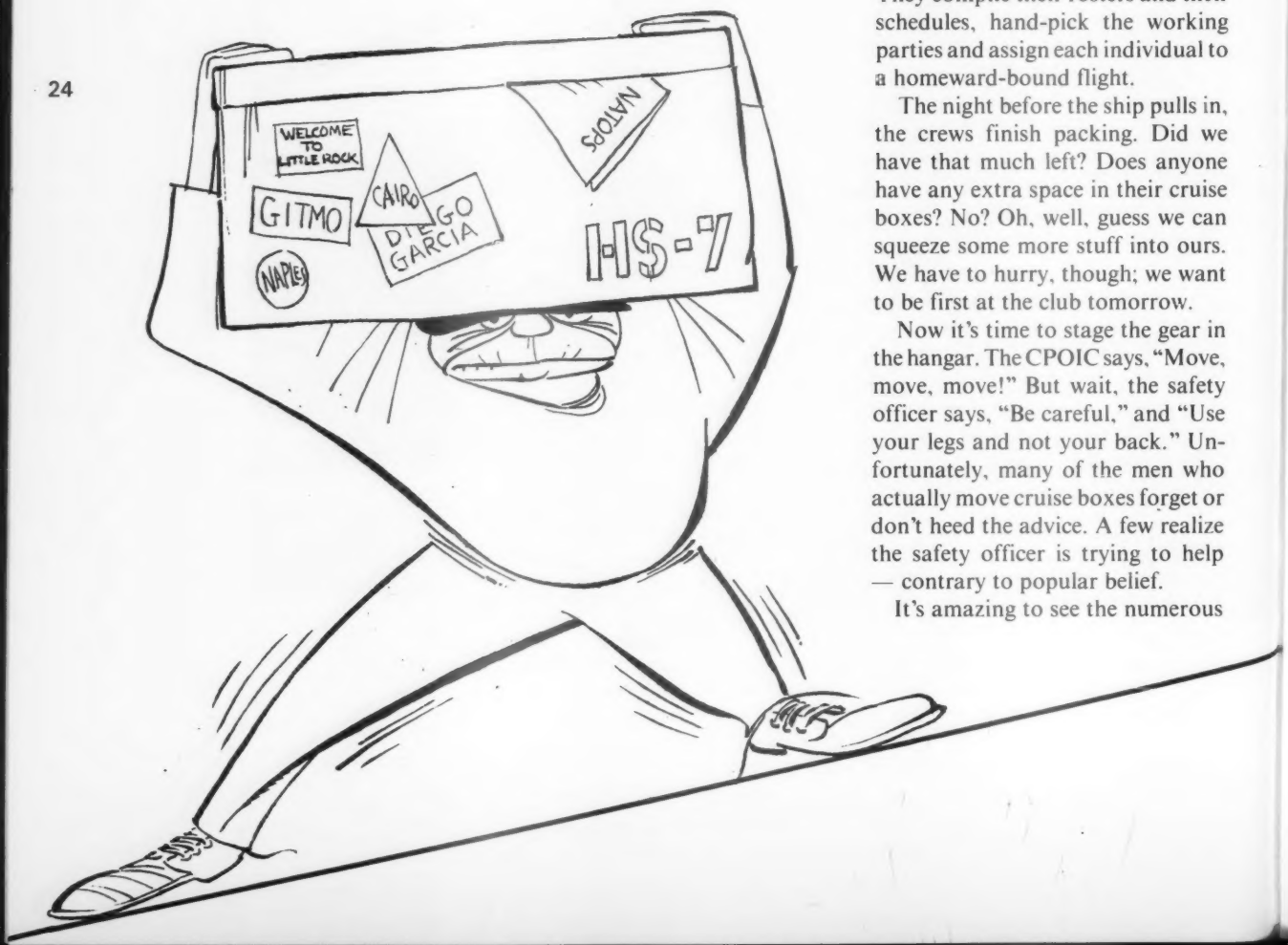
An inspection of the AGB revealed that the auxiliary power plant clutch had ripped out a large portion of the compartment casing. Large pieces of the clutch and gearbox were scattered throughout the compartment and next to the flight control rods.

Left to right:
Maj. D. Lumsden, USMC,
Capt. D. Sasso, USMC,
Cpl. S. Harris, USMC.

Off-Load:

Speed or Safety?

By Ltjg. Russell C. Jensen



DURING the last week of an extended deployment, every safety officer on the ship tells anyone who will listen, "Be safe but work quickly. Don't pack the cruise boxes too heavy, and for heaven's sake, use your legs, not your back, to lift." Of course, the only thing on people's minds is getting off the ship as fast as possible.

The off-load-debarkation coordinators have their mission: get everyone and everything home on time. They compile their rosters and their schedules, hand-pick the working parties and assign each individual to a homeward-bound flight.

The night before the ship pulls in, the crews finish packing. Did we have that much left? Does anyone have any extra space in their cruise boxes? No? Oh, well, guess we can squeeze some more stuff into ours. We have to hurry, though; we want to be first at the club tomorrow.

Now it's time to stage the gear in the hangar. The CPOIC says, "Move, move, move!" But wait, the safety officer says, "Be careful," and "Use your legs and not your back." Unfortunately, many of the men who actually move cruise boxes forget or don't heed the advice. A few realize the safety officer is trying to help — contrary to popular belief.

It's amazing to see the numerous

techniques used to "navigate" the boxes up, down and around ladder wells. If you've never had the pleasure of moving cruise boxes that often weigh more than 200 pounds up and down near-vertical ladders, here are a few methods I have seen. You should avoid them.

The I-can-do-it method. Don't try to impress your friends by trying to move the boxes by yourself. The only people you'll impress are the folks in medical. It takes at least two people to move these boxes safely up and down the ladders.

Then there's the we-have-to-keep-it-level method. The guy on the bottom (who is holding the box high) had better be in good shape so that when the guy on top (who is crouching and only using his back and outstretched arms) throws his back out, the first man can carry him to medical.

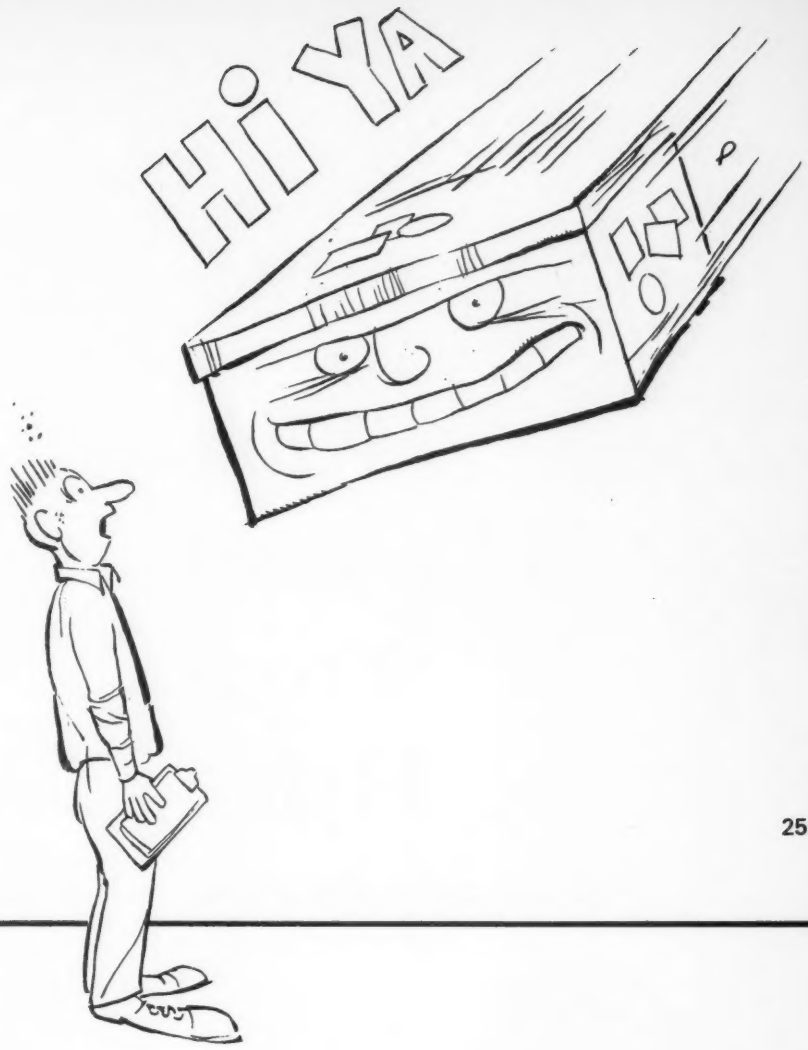
I have also seen the "Hi-ya" method a few times. This method, while safe for your back, is tough on the cruise box. Position the cruise box halfway over the edge of the ladder well. After checking to make sure your alignment is correct, send one man down to clear the landing zone, tip the box over and yell, "Hi-ya!" About two seconds and 540 degrees of roll later, your cruise box is down on the next level and you leisurely saunter down the ladder, back straight, and a big grin on your face. As I said, this way is easy on your back, but tough on the box, its contents and the deck. This method is *not* recommended for *your* box, however.

Finally, it's time for the off-load. By the time your working party actually begins work, every other guy in the squadron is already off the boat and on liberty. So, what's the most important thought in your people's minds? "I feel the need, the need for speed." The only hints of safety come from the CPOIC and our hard-working safety officer. But hey! I won't hurt my back if I lift with it just this once, or maybe twice. . . And I certainly won't drop a cruise box on my foot when I get tired. I am much more coordinated than that. Oops! Sorry, guy, I tripped. Wow! That looks pretty bad. I guess you aren't wearing steel-toed boots, huh?

Now our gear is rolling home on I-95, and all we have to do is put everyone on a plane. Who would miss the flight home? As incredible as it sounds, everyone shows up, on time, too. Of course, our legendary debarkation coordinator has sweated the entire time at the terminal. But the airlift aircraft hasn't broken down. It even arrived on time. An off-load coordinator's dream come true.

If none of this helps you on your next off-load, then click your heels together three times and say, "There's no place like home, there's . . ." ◄

Ltjg. Jensen was HS-7's off-load coordinator while embarked in USS *John F. Kennedy* (CV-67).



VAdm. James Stockdale wrote, "First, pull the covers over your head after you go to bed, and secretly think about a life not run by numbers. Then, secretly get used to thinking big, basically and simply. If you look at an airplane like a bunch of switches you have to memorize, you'll kill yourself. Think basics."[1]

A Yank in the RAF:

What I Learned From Flying 10 Airplanes

By LCdr. Mike Carriker

IT helped to remember his words during my exchange tour in the UK. It was my first day on the job, and it certainly was England. I did not know if it was fog, mist or a very low overcast. It didn't matter. It was still dark outside at the civilized hour of 0830.

"Oh, boy," I thought, "two years of flying in the goo, actual instrument approaches every flight. No problems in getting the IFR time or approach minimums this year."

I wore my greens. The locals were not familiar with this uniform, and I thought I'd wear it just to shake them up and to let them know I was here. My sponsor showed me my office and said that when I had the chance, the "Boss," the Schools Officer Commanding, would like to see me. I straightened my tie and went down the hall to his office.

"Good morning. Welcome to the Empire Test Pilot School," the Boss said in his Scottish accent. "I'm sorry that this bloody weather is not better for your first day, but you'll get used to it."

We then got down to business.

"We have 11 students and three instructors. You will instruct in nine aircraft and do the test and development work on one more. You are in charge of eight exercises that require one- to two-hour technical classroom briefs each, plus teaching all fixed-wing exercises to your syndicate students.

"You will have some secondary duties. The students start flying in four weeks. Take this morning to meet the people and get settled in. Then, this afternoon, go to flying stores and collect your kit. Tomorrow will be convex [Fam 1 *and* NATOPS check I found out] in the Hawk to get you going."

Was he talking to me?

My first thought was, "Ten open-book NATOPS tests? It will take me two weeks just to do those. Then, ten closed-book tests?" Up to this point, I thought my biggest problems were that the heat didn't work in my house, I didn't own a car, and the carpet was picked by someone on drugs. The weather was "Colorstate Yellow" — RAF for 300 feet and 3 kilometers in drizzle.

The Boss must have seen my jaw close to the floor.

"Take it at a pace that suits you. Don't let anyone rush

[1]VAdm. James B. Stockdale, USN (Ret), "The First Day of the War," U.S. Naval Institute *Proceedings*, February 1989.

you. When you are happy, we will go flying. You know enough to know when you can fly."

I wandered back down the hall. I was invited to the crew room to meet a few people over their "cuppa." I learned that most of the school was off on a tour for the next week, and that myself and the QFI (qualified flight instructor) would be the only ones here. I set off to find the QFI since he would do most of my conversions.

The QFI actually lived right next door to my office. I introduced myself and asked where the open-book tests were kept.

"Shhhh-h. Don't say the 'T' word here," he admonished me. "We don't have any and I don't want any."

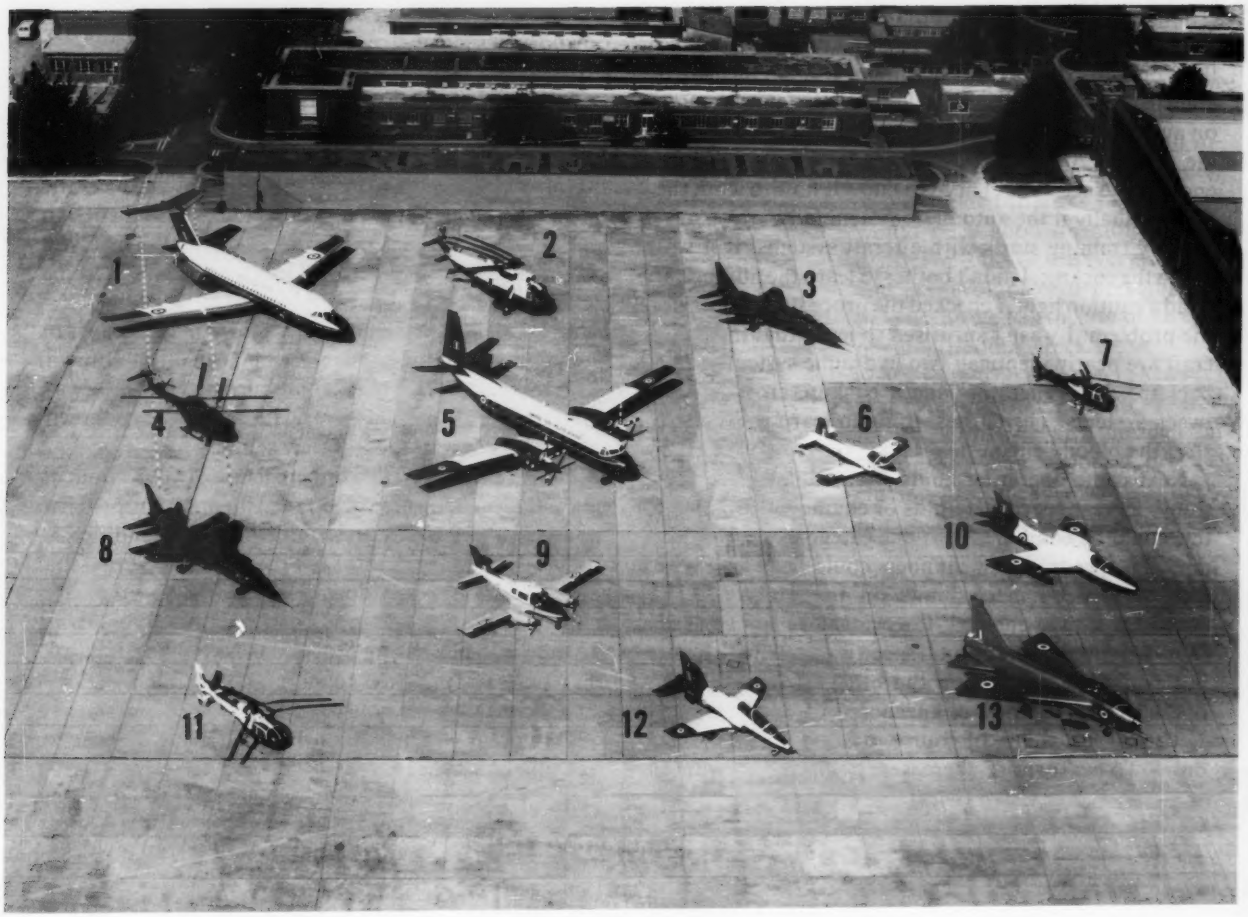
"How about closed-book and boldfaced tests?" I asked.

"I see you have Navy wings on your chest. You know when you're ready to fly, and if not, what it takes to get ready."

Interesting concept.

He continued. "You have all the Aircrew Manuals [NATOPS] in your office. If you have any questions, just ask, and we'll sort out the answers. For the easy jets, you'll do one conversion, a solo or two, then a C-to-I [an instructor check ride]. For the fast jets and the big planes, two convex flights, a solo or two, then a C-to-I. You have to do two instrument checks, one in a twin fast jet, so we can do single-engine procedures, and one in a flight deck airplane. We'll do those as one of your solos prior to your C-to-Is. Your fifth flight in the Jaguar may well have you in the back seat with a student who barely speaks English in the front."

I walked into ops to see if the weather was going to



A lineup of the Empire Test Pilot School's fleet includes: 1. BAC 111, 2. Sea King, 3. Jaguar, 4. Lynx, 5. Andover, 6. Jet Provost, 7. Scout, 8. Jaguar, 9. Basset, 10. Hunter, 11. Gazelle, 12. Hawk, 13. Lightning (now replaced by the Tornado).

help by staying bad the next day. The forecast was "Colorstate Blue" — solid VFR. Time to go to work.

Looking at the 3-foot stack of Aircrew Manuals, I quickly realized that there was no chance of learning any of these aircraft as well as I'd learned my fleet airplane. I still had Navy wings on my chest. We pride ourselves on the training a Naval Aviator receives, and the best training we get is to *think*.

With limited time, I came up with a priority shopping list. What is really needed to safely fly an aircraft? What do I need to know so that I won't die? The answer never changes: knowledge of the aircraft. We are not talking NATOPS "trivial pursuit." You don't need to know the fluid pressure of the propeller hub if it is not measured anywhere. You need to know if the relight ignitors come on automatically or manually. So what if the seat handle needs a 20-kg pull? I'm sure that I will pull hard enough to eject. What I need to know is how to work the seat manually if the automatic system fails.

Navy training starts with aircraft systems. If it was not in the cockpit, I didn't bother to learn the number. If I had a caution light, I checked the procedures to correct the problem. I wasn't surprised to learn that most aircraft are nearly identical: two hydraulic systems and a backup. Two generators and a backup, cross-ties between systems. The hardest thing to learn was how to *start* the bloody engines!

Next came operating limits. I couldn't ignore such things as gear speeds, G limits or engine settings, but a few could be combined into one category such as gear and flap speeds. A few numbers could be generalized, like wing-sweep mach limits on the Tornado. The Andover, a twin-engined, low-winged turboprop, has four flap speeds. The normal speed is easy to remember, but you need to look up the other three for STOL operations. A clear set of kneeboard cards helped.

The biggest thing, of course, was emergency procedures. To my surprise, there were no marked boldfaced procedures in the Flight Reference Cards (pocket checklist). So I picked the obvious ones: engine fire, engine failure, fuel problems and generator problems on electric airplanes. I learned the ones that would hurt something if I didn't know what to do.

Here are a few specific areas I needed to know for each of the different aircraft I flew in England. In the Jaguar, you have 15 minutes to land after a dual-hydraulic failure. You also lose the INS when the electric hydraulic pump comes on. In the Hawk, Hunter and Jet Provost, you are expected to bring the plane back and land if the engine quits. In the Hunter, you can do it down to 200 feet and ½ miles. With the Hawk and Jet Provost, 500 and 1 is the limit.

The Hunter has a low-pressure cock, a high-pressure cock and a throttle — and it starts with a huge shotgun cartridge. When you spin a Hunter upside down, starting at 40,000 feet and recovering at 25,000 feet, the engine may overtemp. You can't reach the HP cock to shut it; you have to get the student to do it. Then, you can recover from the inverted spin and relight the engine.

Keep 36 inches of manifold pressure in the Beaver or you'll overboost the engine. On the Tornado shutdown, after closing the throttles, if you turn off the battery at, say, 35 percent rpm, the electric fuel control engines will relight and run away until they self-destruct.

There is no way to remember all those things about *all* the aircraft, *all* the time. You need an uninterrupted five minutes to refresh yourself on procedures and limitations before every flight. I use the checklist from initial cockpit checks to shutdown checks.

I'm not going to war in any of these aircraft, but flying 10 unique types during peacetime is a demanding task. You need to find ways to simplify your job. The next time someone asks how many blades are on the first-stage compressor, ask him where the blade *counter* is.

Cuppa, anyone? ◄

LCdr. Carriker is currently the Personnel Exchange Program (PEP) officer at the Empire Test Pilots' School, A&AEE Boscombe Down, UK. He is an A-7 pilot and a 1985 graduate of the Naval Test Pilot School.

If language is a vehicle of thought, then a lot of people are hauling empty boxcars.

Ace L.

AMB Crisis:

Drill Now; Play Later

By LCdr. Paul Gallagher

AFTER my first training session with our squadron Aircraft Mishap Board (AMB), I felt uncomfortable with our mishap plan. How would we transport personnel to a remote site? Could we get photographic support? Could we handle panic-stricken wives and press inquiries? How would we identify AMB members, and how would we reach the crash site? Would the plan work during a real crisis? My ASO and I agreed we needed to test the plan.

We decided on a two-step approach. Step one was a surprise announcement to evaluate initial reactions. Step two would be a muster of the AMB at the remote crash site where a simulated crash was arranged and pre-briefed witnesses were on hand. Step two took on the look of a training scenario instead of a test with the ASO going over crash investigation and interview techniques.

We decided that NALF Fentress would be a good location for the drill. The OINC was very helpful and even volunteered personnel to help us, as well as the use of an old, on-site, training wreck.

My squadron ASO recruited several squadron members to develop the scenario. We also decided on "actors" to play various types, including pushy media reps, two utterly horrified housewives, a nosey TY-

COM rep pushing for elaboration of the initial report, crash witnesses and aircrew survivors. All the players received briefings and rough scripts. They were told to take their roles seriously, and invited to embellish their parts and perhaps fabricate stories that fit in with the scenario.

The players were in place by 0845 on the morning of the drill. At Fentress, the ASO accompanied the mishap crew, three "farmers" and the NALF crash crew. The AMB members were doing what most Naval Aviators do at 0900: drinking coffee and swapping lies.

At 0850, the ASO called the SDO.

"Exercise, exercise. This is Lt. Wrongway at NALF Fentress. I just heard a big bang and looked out the window. I see a big black cloud out by the runway. According to my schedule, your squadron has the field for this period. I'm not sure what the damage or casualties are. I've got to check with my crash crew." Click!

We were rolling now. The Safety Department observers directed the duty officers to make appropriate phone calls to confirm the currency of the phone numbers in our plan. The initial OPREP message was ready to go in 34 minutes.

Meanwhile, the duty office was bombarded with phone inquiries. Despite all the distractions, the duty section mustered and waited to be transported to the crash site. The AMB members were located and mustered at the safety office. The senior member grabbed the mishap kit, and the motorcade left for Fentress.

When they arrived, the ASO interviewed the witnesses. This first phase lasted approximately two hours. We found out that we needed to rearrange the Pre-Mishap Plan to improve the flow of events. We should muster the duty section early.

Guidance was missing on who to contact to transport the duty section and we wasted valuable time in running down phone numbers at public works to get a bus.

We did not include notifying the Armed Forces Institute of Pathology (in case of fatalities) in the plan.

We should have told the Communications Center to expect our OPREP message.

The standard witness form (OPNAV 3752/1) includes a statement of understanding for the witness to sign, but the form is tailored for military personnel with references to non-judicial punishment and administrative matters. We felt the average civilian might be intimidated by the wording, and we suggested developing a more suitable civilian form in-house.

We needed tape-recorded statements from the witnesses.

AMB members did not ask the same questions. The ASO determined that standard questions should be developed and kept to a minimum.

In retrospect, several aspects of the drill could have been improved. Initially, we wanted to construct a crash scenario at the field. However, time and scheduling conflicts prevented it. During the witness interviews, we did not control the situation as well as we could have. We envisioned a lesson in interviewing techniques by the ASO, but the drill developed into several simultaneous interviews with the ASO bouncing from group to group. However, the interviews were productive, and we learned about structuring this phase to gain better results.

Overall, we were pleased with the exercise. All participants enthusiastically agreed it was the best mishap training they had ever had. We were surprised at how easy it was to plan and execute the drill; everyone was eager to participate. And I felt more confident about our ability to accomplish our Pre-Mishap Plan during a real crisis. ◄

LCdr. Gallagher is the Safety Officer for VAW-120.

The Best Pilot Syndrome

By Capt. Pete Taylor

MANY mishaps in Naval Aviation are attributed to pilot error. Most of the time we can relate this error to inexperience, lack of proficiency, lack of situational awareness (what an overused buzzword) or some other malaise that infects less-talented pilots (you know, the bone heads).

Much too often, the CO's comments on his MIR endorsement will read, "This mishap is a travesty. LCdr. Sierra Hotel excels in all facets of airmanship. He is the most talented and best pilot in the squadron."

If he's so talented and SH, how come his name appears on the marquee as "the guy who dunnit"?

Here's one scenario. Let's start with a Vn diagram of pilot dynamics in a squadron at the beginning of the turnaround cycle. The "best pilot" or "his self" (X) starts way ahead of the pack. Skill-wise he's already there; he just has to tweak and peak.

The average pilots, the "dust balls," start somewhere in the middle. They're weak in some areas, better in others. They change relative positions as training progresses and are watched to ensure no serious trouble spots occur.

The weak pilot (O) is identified quickly, and he is monitored very closely. He is given an extraordinary amount of attention. The weak pilot seems to run the greatest risk of having a major mishap — maybe! He's selectively scheduled with a strong leader. We ensure that his admin burden isn't too great so he can concentrate on flying; we fly him extra day traps before he has that night go, and so on. Most of the time he responds positively, and while he probably will never develop into the "ace of the base," he becomes a productive squadron member.

The "dust ball" also progresses nicely. He may fall down in some areas, but with proper coaching, he picks himself up and becomes the soul of the squadron. These two pilot categories interrupt more sleep, ready room movies and slider times for COs than attack pilots shagging three wires over his stateroom.

Now we get to the "best pilot." He never gets much attention 'cause we're worried about the other guys. He's the best. The squadron knows it, he knows it and he thrives on it!

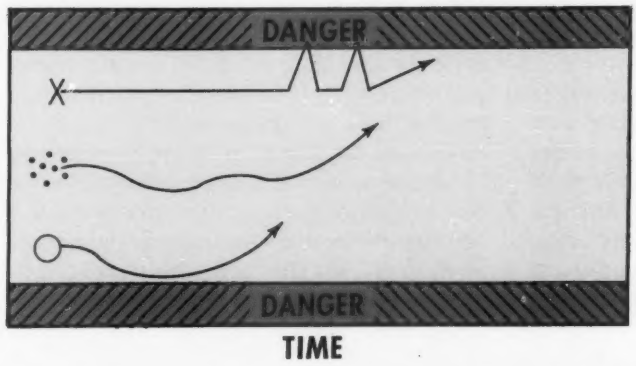
As time passes, the rest of the squadron improves and climbs away from the lower danger zone. Boarding rates improve, the bolter pattern becomes a thing of the past, and more green is displayed on the "greenie board." It's tough to win an engagement off the new guys, and CEPs get tight. The JOs flash around newly won beer-bet chits with "his self's" name on them — in public! The skill gap on the "best pilot" is closing; both his prominence and ego are threatened.

The "best pilot" has been flying at the narrow edge of the envelope throughout the training and doing it well. He's been by himself at the top and is expertly familiar with all envelopes and just how far to press this marriage of man and machine.

To reestablish the perceived loss of prestige, "his self" begins to exceed these envelopes, spiking into the upper danger zone. He must keep the gap between himself and his buddies for ego's sake. Pullouts on weapon runs are lower, pressing for that good hit, 200-foot low levels at 100 feet or less; the 500-foot bubble shrinks to the "dust-off" mode, the gear handle is up as soon as the indexers come on — maybe the flaps, too.

Possibly a canopy roll or two slip in there. The margin for error is decreasing. Most of the time, "his self" gets away with it. When he doesn't, a Class A might happen.

COs, pay attention to the signals, ready room talk, Junior Officers Protective Association (JOPA) and other sources concerning "best pilots" and their endeavors. They need timely TLC as much as the weaker pilots, but their signals are much harder to detect.



Capt. Taylor is the Force Safety Officer, COMNAVAIRLANT, NAS Norfolk, Va. He previously was Aviation Safety Coordinator for OP-05F, Washington, D.C. He's an A-7 pilot and former LSO and Air Boss.

The CO's Edge

By Cdr. Richard D. Norris

MY formula for a successful squadron is the same as the product STP that claims to provide "the racer's edge." I never wondered what the product's letters meant, but *mine* stand for Safety, Training and People.

A squadron's safe operation requires a strong program using the fundamentals provided through OPNAV, NATOPS, NAMP and NAVOSH. The command must also clearly demonstrate the importance of its members' health, welfare and professional development. But, neither of these two components of my STP formula will lead to safety without the third key element, training.

Training cannot be an afterthought. From the day a new member arrives, the command should focus on training him to perform correctly, efficiently *and* safely. An early review of his orders is essential to ensure that he receives the necessary en route training. A complete sponsor letter and welcome-aboard package adds important training because it immediately establishes communication between his new squadron and the new member. A follow-up, as soon as he walks through the door, is also important.

The squadron indoctrination is an effective way to inspire a positive attitude. A half-hearted, poorly organized, or poorly executed indoctrination can send negative signals that will be difficult to correct later. Be sure to include a check-in sheet with every required briefing topic listed under the appropriate work center or individual. The XO and CO also get their turns and provide quality control on the preceding check-ins.

While this method takes time and patience, it generally ensures a standardized training sequence for new arrivals. By the time it's done, the check-in process thoroughly familiarizes the new member with the squadron and how he will fit into it. I've used this method in two commands, and I am convinced of its value.

The preferred arrangement is to have department head status — someone who can compete with other departments for time and resources — for the indoctrination-training officer. Unfortunately, such an arrangement has not been recognized as essential by manpower planners. It usually comes from the squadron's "hide." Many squadrons and communities choose to conduct their program at the grassroots level while waiting for the policy makers to catch up. It's my experience that the results fully justify the sacrifice.

The CO must let the squadron know how much importance he places on the training program, that he considers it as important as flying or fixing aircraft. The training officer must be convinced that combat readiness and squadron safety rests squarely on his shoulders. Elements of the program should include a training syllabus for each member, a training manual, well-maintained training jackets, and training petty officers who are motivated and knowledgeable. A comprehensive monthly report will let the CO know how the program is doing and what problems need to be addressed.

In the aviation community, we are periodically tasked with coming up with new ideas to stem a new, alarming trend in the mishap rate. I think these efforts are often misplaced. We simply don't need new programs. We have a superb library of programs covering NATOPS, FOD prevention, maintenance and corrosion control —the list goes on.

What we don't have is a commitment throughout the chain to ensure these programs are understood and carried out. We are too busy making sure that the maintenance is done, the flight launches and the reports are in the mail. We don't see if the maintainers, aviators and administrators know how to do their jobs right in the first place. Devoting one or two hours a week to a hit-or-miss training effort is simply not enough.

As each squadron member completes a phase of his on-going training, recognition should follow. But more importantly, people who are properly trained are more likely to do their jobs safely. Instilling correct attitudes is as fundamental as is training in the correct procedures.

Cdr. Norris was the CO of VC-1 when he wrote this article. He is also a LAMPS warfare specialist. He is now assigned to the Naval War College.

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U.S. GOVERNMENT PRINTING OFFICE:

BROWNSHOES IN ACTION COMIX

"The kind real aviators like"

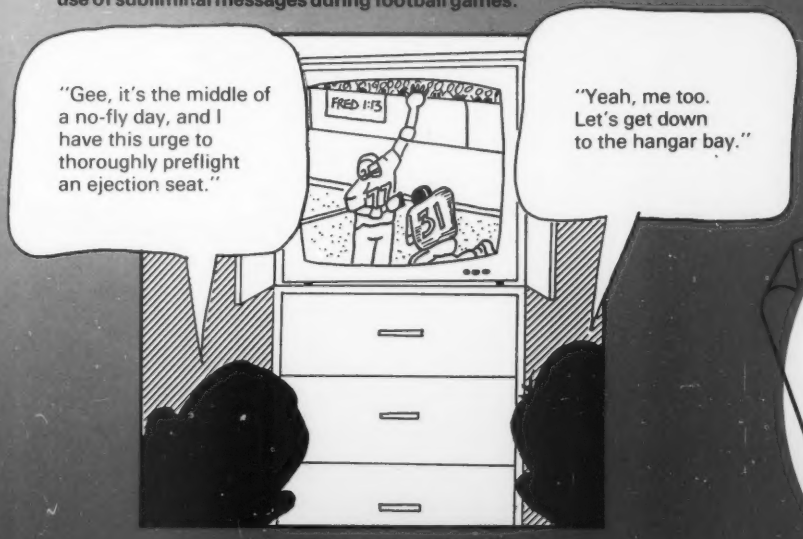
By Lt. Ward Carroll

VF-3.14's new safety officer wants his term to be characterized by "innovation." . . .

"We'll start by changing everyone's callsigns to important safety tips . . ."

"Hey, 'Head-on-a-Swivel!' have you seen 'Never-Gets-Complacent?' "
"No, 'Fly-the-Brief,' isn't he airborne with 'Centered-Ball-to-Touchdown?' "
100

"Then, I'll coordinate with the ship's TV guys the use of subliminal messages during football games."


"Gee, it's the middle of a no-fly day, and I have this urge to thoroughly preflight an ejection seat."
"Yeah, me too. Let's get down to the hangar bay."
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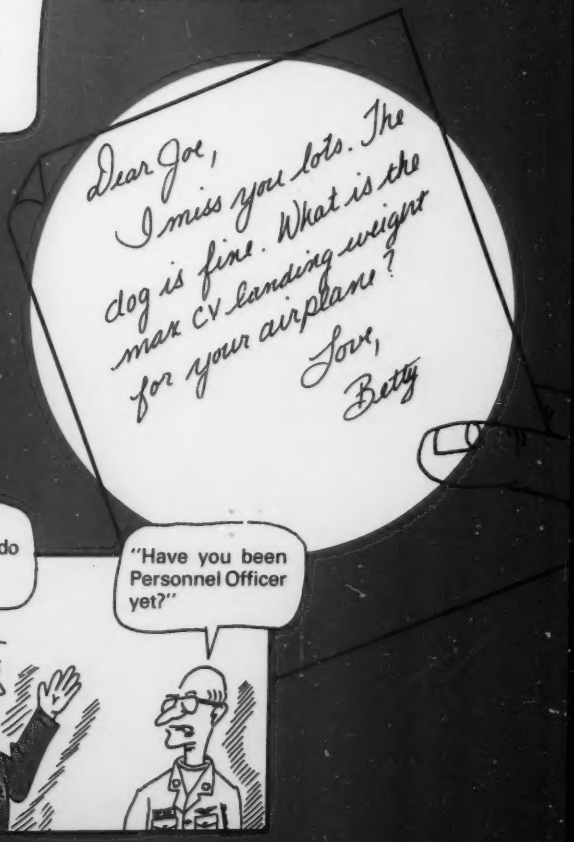
"Finally, we can disguise NATOPS quizzes as letters from home . . ."


Dear Joe,
I miss you lots. The dog is fine. What is the max CV landing weight for your airplane?
Love,
Betty
"Well Sir, what do you think?"
"Have you been Personnel Officer yet?"

Safety rules are made by mishaps don't make the rules